

Zhichao Chen/ Ziciu Can (Wade-Giles)

chenzhch7@mail3.sysu.edu.cn
<https://ziciucanjustus.github.io/>

EXPERIENCE	<p>Doctor of Philosophy Candidate, College of Control Sceince and Engineering, Zhejiang University Oct 2020–Now</p> <p>Supervised by Zhihuan Song and Zhiqiang Ge on industrial process data analytics</p> <ul style="list-style-type: none">• Theoretically derived graph mining and utilization of industrial process.• Derive latent variable learning algorithm from the perspective of optimization/control theory.• Understanding, Analyzing, and Improving Bayesian inference from the perspective of information geometry. <p>Research Intern, Microsoft Research AI4Science Asia Apr 2023–Oct 2023</p> <p>Supervised by Chang Liu and Bin Shao on solving Schrödinger equation with normalizing flow model.</p> <ul style="list-style-type: none">• Development of normalizing flow algorithm.• Code-base reformulation <p>Research Intern, Ant Group Aug 2021–Jan 2023</p> <p>Supervised by Leilei Ding, Jianmin Huang and Wei Chu on cumulative time-series forecasting and large scale multivariate anomaly detection & diagnosis.</p> <ul style="list-style-type: none">• Development of time-series forecasting paper for “red-package” business.• Development of anomaly diagnosis algorithm for applet monitoring (full-stack). <p>Undergraduate, School of Chemical Engineering and Technology, Sun Yat-sen University 2016–2020</p> <p>Supervised by Chang He and Haoshui Yu on chemical process optimization using GAMS.</p> <ul style="list-style-type: none">• Synthesize of “organic Rankine cycle-heat integration-wastewater desalination” Coupled System
EDUCATION	<p>Ph.D. Control Theory & Engineering, Zhejiang University (exp.) 2025</p> <p>B.S. Chemical Engineering & Technology, Sun Yat-sen University 2020</p>
SERVICES	<p>Reviewer,</p> <ul style="list-style-type: none">• Conference: ICLR-2024 ICML-2023, ICML-2024 ,• Journal: IEEE TNNLS
AWARDS	<p>Undergraduate National Scholarship, Ministry of Education (China) 2018,2019</p> <p>The First Prize Scholarship of Sun Yat-sen University, Sun Yat-sen University 2017,2018,2019</p> <p>One Hundred Outstanding Students of Sun Yat-sen University, Sun Yat-sen University 2021</p> <p>The First Prize Scholarship, Zhejiang University 2020,2021</p>
COMPETENCES	<p>Languages Chinese (<i>native</i>), English (CET-6, 533)</p> <p>Techniques Python, GAMS, MATLAB, Optimization, Optimal Control</p> <p>Backends PyTorch, JAX, PyRO</p>
FIRST-AUTHORED PUBLICATIONS (ACCEPTED)	<p>[1] Improving Data-Driven Inferential Sensor Modeling by Industrial Knowledge: A Bayesian Perspective. <i>IEEE Transactions on Systems, Man and Cybernetics: Systems</i> (CCF-B, IF=8.6, JCR-Q1)</p> <p>[2] Diffusion Model-based Numerical Tabular Data Imputation: A Wasserstein Gradient Flow Perspective. <i>The Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS 2024)</i>, Main Track, Poster (CCF-A), 2024.</p> <p>[3] E²AG: Entropy-Regularized Ensemble Adaptive Graph for Industrial Soft Sensor Modeling. <i>IEEE/CAA Journal of Automatica Sinica</i> (Top-1, IF=15.3, JCR Q1, Regular Paper), 2024.</p>

- [4] Analyzing and Improving Supervised Nonlinear Dynamical Probabilistic Latent Variable Model for Inferential Sensors. *IEEE Transactions on Industrial Informatics* (CCF-C, IF=11.7, JCR Q1, Regular Paper), 2024. doi: 10.1109/TII.2024.3435466
- [5] Variational Inference Over Graph: Knowledge Representation for Deep Process Data Analytics. *IEEE Transactions on Knowledge and Data Engineering* (CCF-A, IF=8.9, Regular Paper), 2023. doi: 10.1109/TKDE.2023.3327415
- [6] Unsupervised Anomaly Detection & Diagnosis: A Stein Variational Gradient Descent Approach. In: *CIKM'23* (CCF-B, Short Paper), Birmingham, England, 2023. doi: 10.1145/3583780.3615167
- [7] Monotonic Neural Ordinary Differential Equation: Time-series Forecasting for Cumulative Data. In: *CIKM'23* (CCF-B, Applied Research Paper), Birmingham, England, 2023. doi: 10.1145/3583780.3615487
- [8] Directed Acyclic Graphs With Tears. *IEEE Transactions on Artificial Intelligence* vol. 4, no. 4, 972-983, 2023. doi: 10.1109/TAI.2022.3181115
- [9] Knowledge Automation Through Graph Mining, Convolution, and Explanation Framework: A Soft Sensor Practice. *IEEE Transactions on Industrial Informatics* (CCF-C, IF=11.7, JCR Q1, Regular Paper) vol. 18, no. 9, 6068-6078, 2022. doi: 10.1109/TII.2021.3127204
- [10] Stochastic optimization-based approach for simultaneous process design and HEN synthesis of tightly-coupled RO-ORC-HI systems under seasonal uncertainty. *Chemical Engineering Science* vol. 246, 116961, 2021. doi: 10.1016/j.ces.2021.116961

CO-AUTHORED
PUBLICATIONS
(ACCEPTED)

- [1] Optimal Transport for Treatment Effect Estimation. *NeurIPS 2024* (CCF-A, Main Track), 2023.
- [2] ESCM²: Entire Space Counterfactual Multi-Task Model for Post-Click Conversion Rate Estimation. In: *SIGIR'22* (CCF-A, Research Article), Madrid, Spain, 2022. doi: 10.1145/3477495.3531972
- [3] SPOT-I: Similarity Preserved Optimal Transport for Industrial IoT Data Imputation. *IEEE Transactions on Industrial Informatics*, 2024. doi: 10.1109/TII.2024.3452241